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AKZO NOBEL INC. LEGAL & IP 120 WHITE PLAINS ROAD, SUITE 300 TARRYTOWN, NY 10591			EXAMINER MCMILLIAN, KARA RENTIA	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/049,357  
Filing Date: May 22, 2002  
Appellant(s): ASAOKA ET AL.

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James C. Abruzzo  
Reg. No. 55,890  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed February 25, 2009 appealing from the Office action mailed March 25, 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

2002/0071811	Bhatt et al.	6-2002
6,335,003	Kim et al.	1-2002

5,100,658	Bolich, Jr. et al.	3-1992
5,972,354	de la Poterie et al.	10-1999

### **(9) Grounds of Rejection**

Claim 15 which was canceled and the limitations thereof was incorporated into claim 10 in an amendment submitted on September 6, 2006 was inadvertently rejected in the Final rejection mailed on March 25, 2008. Claim 18 which was canceled in an after final amendment on September 25, 2008 which has now been entered was also rejected in the final rejection mailed on March 25, 2008. Claims 10-14, 16, 17, 19 and 20 stand rejected and are subject to appeal. The following grounds of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-14, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatt et al. (2002/0071811) in view of Kim et al. (6,335,003).

The instant invention is directed toward a composition comprising an amphoteric urethane resin having at least one carboxyl group and at least one tertiary amino group in one molecule, and a water-soluble resin.

Bhatt et al. teach hair spray compositions containing a carboxylated polyurethane. The polyurethane contains polyoxyalkylene units, such as polyoxyethylene soft segments which impart hydrophilicity to the polyurethane. Amines, such as ethylenediamine, propylenediamine, monoethanolamine, and diglycolamine, can be added to the polyurethane resin reaction mixture.

On page 4 paragraphs 0036-0047, Bhatt et al. teach that the polyurethane resin can be made with polyoxyethylene diols having a molecular weight of 400-20,000. As each ethylene oxide (EO) unit is approximately 44Mw then the number of possible ethylene oxide units is 9.1 to 454.5 EO.

Bhatt discloses, in paragraphs 0067-0069, that the hair spray compositions contain a variety of conventional optional ingredients including emulsifiers, such as anionic or nonionic surfactants (water soluble polymers), preservatives, cationic conditioners (water soluble polymers), such as cetyl trimethyl ammonium chloride, coloring agents, etc..

The carboxylated polyurethane resins are soluble in ethanol/water mixtures. The reference lacks tertiary amines. See abstract; (0024J-(0025); (00361; (0050).

Kim et al. teach cosmetically acceptable polyurethane resins. The polyurethanes are formed from at least one diisocyanate or reaction product thereof with one or more compounds containing two or more active hydrogen atoms per molecule, and at least one diol, primary or secondary amino alcohol, primary or secondary diamine or primary or secondary triamine each with one or more tertiary, quaternary or protonated tertiary amine nitrogen atoms. Propylene diamine is taught as a suitable diamine. The

polyurethanes resins are taught as beneficial because of their flexibility and decrease of stickiness and brittleness when applied to the hair.

Hairsprays and hair setting lotions are taught as preferred forms of the compositions. See abstract', Col. 1, line 41-Col. 2, line 1 1,\* Col. 2, line 58-1ine 65\*, Col. 7, line 57-Co1. 8, line 7.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the tertiary amines taught by Kim et al. for the amines taught by Bhatt et al. because of the expectation of achieving a hair spray formulations that in addition to imparting excellent set retention to the hair, as taught by Bhatt, additionally decrease the stickiness and brittleness of the product when applied to the hair and to maintain hair elasticity. Furthermore, it would hake been obvious to one of ordinary skill in the art at the time the invention was made to substitute the tertiary amines taught by Kim et al. for the amines taught by Bhatt et al. because Bhatt et al. teach diamines as part of their resins and Kim et al. teach diamines as interchangeable with tertiary for application to the hair.

It is respectfully pointed out amines in polyurethane resins that a) the carboxyl group and tertiary amine of the combined polyurethane resin result in an amphoteric resin, and that b) the combined resin is a water-soluble resin.

Claims 11-13, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatt et al. and Kim et al. as applied to claims 10-14, 17, and 20 above, and further in view of de la Poterie et al. (5,972,354) in view of Bolich et al. (5,100,658).

Bhatt et al. and Kim et al. are applied as discussed above. The references lack a polysiloxane bond and anionic, nonionic, and cationic resins.

de la Poterie et al. teach cosmetic compositions comprising film-forming polymers. Polycondensates, such as anionic, cationic, nonionic, or amphoteric polyurethanes and mixtures thereof are taught as film forming polymers. The polyurethane is taught as comprising at least one silicone-containing block. The instant films are taught as supple, flexible, elastic, and as not substantially lifting off once applied. See Col. 2, line 17-1ine 62; Col. 3, line 3-Co1. 4, line 42.

Bolich et al. teach silicones, in the form of resins, as hair conditioners. See Col. 13, lines 56-65, Col. 9, lines 51-53.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the silicone containing blocks of a polyurethane resin, taught by de la Poterie et al. to the polyurethane resin of the combined references because of the expectation of achieving a polyurethane resin that imparts conditioning properties to the hair, as taught by Bolich et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add anionic, cationic, or nonionic polyurethane resins, as taught by de la Poterie et al. to the composition of the combined references because the combined references teach amphoteric polyurethanes and de la Poterie et al. teach anionic, cationic, nonionic, and amphoteric polyurethane resins as combinable and because of the expectation of achieving compositions with films that are supple, flexible, elastic, and do not substantially lift off once applied.

**(10) Response to Argument**

Appellants argue that Bhatt et al. has a filing date of October 29, 2001 and a publication date of June 13, 2002 and the present application has a priority date of August 10, 1999. As such Appellants argue that Bhatt et al. is not prior art to the present application. In response to said argument, as Appellants have already pointed out, Bhatt et al. is a division of U.S. Patent No. 6,350,434 which is a division of U.S. Patent No. 6,007,793 which was filed on September 20, 1996. Thus Bhatt et al. constitute as prior art as the effective filing date is that of its parent application which is September 20, 1996.

Appellants argue that the combination of Bhatt et al. in view of Kim et al. do not yield an amphoteric urethane resin as claimed in the instant application because the polyurethane resin of Bhatt differs from the amphoteric urethane resin of the claimed invention since Bhatt et al. do not include a polyol chosen from polyester polyol formed from the polymerization of a dicarboxylic acid and a polyhydric alcohol and/or a polyether polyol formed from the polymerization of an alkylene oxide and a polyhydric alcohol. Appellants further argue that Bhatt et al. fail to include a compound having active hydrogens and tertiary amino groups.

These arguments are found not persuasive since Appellants claims are drawn to an amphoteric urethane resin formed from the reaction of a polyol chosen from polyester polyol and/or polyether polyol. Appellants do not claim that the polyester polyol is formed from the polymerization of a dicarboxylic acid and a polyhydric alcohol



and that the polyether polyol is formed from the polymerization of an alkylene oxide and a polyhydric alcohol. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, a polyether polyol as claimed in the instant application is rendered obvious in view of an alkylene glycol as disclosed in Bhatt et al. Appellants further argue that in the Advisory action dated October 30, 2008, the Office indicated that Bhatt et al. utilizes alkylene glycol which renders obvious polyether polyol without providing any reasoning to support said conclusory statement. Polyols are compounds with multiple hydroxyl functional groups available for organic reactions. A molecule with two hydroxyl groups is a diol, one with three is a triol, one with four is a tetrol and so on. Alkylene glycol is a diol having two hydroxyl functional groups and is known as a monomeric polyol. Thus since alkylene glycol is a polyol with a similar structure as polyether polyol, alkylene glycol is rendered obvious.

In response to Appellants arguments that Bhatt et al. do not teach the addition of tertiary amines, Bhatt et al. broadly teach the use of amines in general (see paragraph [0036]). Thus all forms of amines are contemplated. Furthermore Appellants must consider the rejection as a whole, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Kim et al. reference was provided to show motivation for the use of tertiary amines in the composition of Bhatt et al. as Kim et al. teach that diamines are interchangeable with tertiary amines.

Appellants further argue that Kim et al. do not teach that diamines are interchangeable with tertiary amines and that Kim et al. merely teach that diamines and triamines are interchangeable. This argument is found not persuasive since as pointed out by the Appellant, Kim et al. teach the use of either diamines or triamines, each with one or more tertiary, quaternary or protonated tertiary amine nitrogen atoms (see column 2 lines 20-24). Thus Kim et al. teach the use of diamines (specific diamines such as ethylenediamine, propylenediamine, etc. are taught in column 2 lines 61-65), or triamines, or a diamine with a tertiary nitrogen (a tertiary amine), or a triamine with a tertiary nitrogen (a tertiary amine), etc. Since Kim et al. teach that either one (a diamine or a tertiary amine, etc.) can be used with a reasonable expectation of similar success, one of ordinary skill in the art would interpret said disclosure as meaning that said amines are interchangeable.

The Appellants further argue that neither Bhatt nor Kim et al. teach the amphoteric urethane resin and a water soluble resin. The examiner respectfully disagrees. Bhatt discloses that the hair spray compositions contain a variety of conventional optional ingredients including emulsifiers, such as anionic or nonionic surfactants, preservatives, cationic conditioners, such as cetyl trimethyl ammonium chloride, coloring agents, etc. Additionally the aqueous formulations can contain plasticizers such as glycols, phthalate esters, glycerine, silicones, protein hydrosylates, emollients, lubricants, penetrants,

lanolin compounds, ethylene adducts and polyoxyethylene cholesterol. Thus Bhatt discloses water-soluble polymers (anionic and nonionic surfactants, silicones, protein hydrosylates, ethylene adducts, and polyoxyethylene cholesterol) other than the amphoteric urethane resin. The Appellants have stated, that one skilled in the art (not one of ordinary skill) would know that anionic and nonionic surfactants, silicones, protein hydrosylates ethylene adducts and polyoxyethylene cholesterol are **NOT** water soluble polymers. The examiner respectfully disagrees with this blanket statement and directs Appellants to U.S. Patent No. 4,369,037, wherein water-soluble keratin derivatives (protein hydrosylate-see col. 4 lines 35-50) and water soluble silicones (see examples 12 and 13) are disclosed for use in hair treatment cosmetics. These references are solely included for the refutation of the applicant's arguments and are not needed nor utilized in the formulation of the 103 rejection. Additionally Bhatt teaches a polyurethane resin that contains a carboxylic acid group and an amine in one polymer. Kim teaches that secondary and tertiary amines are interchangeable and Kim teaches a water-soluble resin that could be combined with Bhatt's polyurethane resin. One of ordinary skill in the art at the time the invention was made would have realized that one could combine Bhatt's polyurethane resin with a carboxyl group and an amine with the water soluble resin of Kim, and further that the secondary and tertiary amines of Kim could be used to make the polyurethane resin of Bhatt. The motivation is the same as set forth in the previous office actions.

Appellants further argue that the addition of de la Poterie and Bolich, Jr. do not solve the deficiencies as describe above of Bhatt et al. in view of Kim et al. These

arguments are found not persuasive based on the arguments presented above for Bhatt et al. in view of Kim et al.

Appellants further argue that Bolich Jr. teaches away from the claimed invention and should not be relied upon. This argument is found not persuasive since said reference was only relied upon to teach that silicone resins are known in the art for their hair conditioning properties and as such an ordinary skilled artisan would be motivated to include the silicone containing blocks of a polyurethane resin as taught by de la Poterie et al. because of the expectation of achieving a polyurethane resin that imparts conditioning properties to the hair.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/SREENI PADMANABHAN/

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